

Clinical Image

Incidental Finding of Interrupted Aortic Arch in an Adult Patient Who Underwent Urgent Percutaneous Coronary Intervention

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Interrupted Aortic Arch (IAA) is a very rare congenital abnormality that affects 3 per million live-births. If left untreated, it is associated with a mortality rate of more than 90% at 1 year [1]. Its occurrence in adults with atherosclerotic coronary heart disease is therefore rare, making Percutaneous Coronary Intervention (PCI) very challenging, especially in the setting of emergency care and when the abnormality is unknown. To our best knowledge, just one case report of IAA in the context of Acute Coronary Syndrome has been reported before [2].

A 58 years old woman complaining of Non-ST Segment Elevation Myocardial Infarction (NSTEMI) underwent urgent coronary angiography. Via the right radial artery it was not possible to reach ascending aorta because of the presence of tangled arteries connecting the pre-vertebral subclavian segment to the descending aorta. A Digital Subtraction Angiography (DSA) of the aorta performed through left radial access showed the interruption of the aortic arch, distal to the origin of the left subclavian artery (A-B). Coronary angiography and right coronary artery PCI were performed through left radial access (C-D). Angio-CT confirmed the Aortic Arch interruption and showed the tangled collateral vessels connecting both subclavian arteries to the descending aorta (Figure 2A-B-C).

Abstract

Different vascular abnormalities have been reported concerning congenital anomalies of the aortic arch. We report a case of Interrupted Aortic Arch (IAA) discovered in the setting of acute coronary syndrome.

Keywords: Interrupted aortic arch (IAA); ACS; Complex percutaneous coronary interventions (PCI); Images in cardiology

Abbreviations: IAA: Interrupted Aortic Arch; PCI: Percutaneous Coronary Intervention; NSTEMI: Non-ST Segment Elevation Myocardial Infarction; DSA: Digital Subtraction Angiography; CT: Computed Tomography



Figure 1: A-B: Digital Subtraction Angiography. A: Tangled vessel connection from Right Subclavian Artery to the Descending Aorta. B: Short occlusion of the Descending Aorta distal to the left subclavian artery origin. C: Coronary Angiography: Proximal right coronary artery critical stenosis (White Arrow). D: Result after stenting.

E: Computed Tomography Angiography (CTA) MPR reconstruction. See the aortic occlusion after the left subclavian artery origin.

F: Computed Tomography Angiography (CTA) MPR reconstruction showing left ventricular hypertrophy.

G-H: Angio CT Volume-rendered images. G: Lateral view projection showing the interruption of the Aortic Arch, distally to the left Subclavian Artery. H: antero-posterior projection showing the tangled vessels connections, running very close to the back spine, from both Subclavian Arteries to the Descending Aorta.

References

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